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ABSTRACT

This document examines the measurement of reading achievement and life change (amount and rate of change as a stress producing factor) as possible alternatives to traditional entrance examinations in the community college. In fall 1974, the Nelson-Denny Reading Test (NDRT) was administered to 403 entering freshmen at Amarillo College (Texas). In spring 1975, all 326 continuing students who had taken the NDRT were mailed a demographic data questionnaire, a Social and Collegiate Readjustment Rating Questionnaire (SCRRO), and an attitude survey. In all, 172 (53 percent) responded, and 117 were selected as study subjects. The following dependent measures were identified for each of the respondents: (1) first and second semester course loads completed; (2) first semester, second semester, and composite grade point average; (3) attitude variables. Reading achievement was found to be significant as a measure of course hour load and grade point average. Life change, however, was an effective predictor only of effective completion of course hour load. The interaction of reading achievement and life change was significant as a predictor only of course hour load. Complete survey data are tabulated, and a survey of the literature is included. (NHM)

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LIFE CHANGE AND READING ACHIEVEMENT AS PREDICTORS OF ACADEMIC PERFORMANCE FOR SELECTED COMMUNITY COLLEGE FRESHMEN

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ABSTRACT

Life change and reading achievement were studied as possible alternatives to traditional entrance examinations in the community college. The Nelson-Denny Reading Test and the Social and Collegiate Readjustment Rating Questionnaire were administered to beginning freshmen in a Texas community college, Amarillo College. Subjects were dichotomized into two (high, low) life stress groups and three (high, moderate, low) reading achievement levels. Academic performance was measured by course hour load, grade point average, and selected attitude factors. Data analysis indicated (1) reading achievement predicted grade point average, course load, and attitudes; (2) life change predicted course load; and (3) there was interaction on course load.

LIFE CHANGE AND READING ACHIEVEMENT AS PREDICTORS OF ACADEMIC PERFORMANCE FOR SELECTED COMMUNITY COLLEGE FRESHMEN

The two-year college has been called the "safety valve of the American educational scheme . . . . the shock absorber for the jarring tensions generated by the victories of mass education and the academic revolution in American life" (Cohen, 1971, pp. 11-12). It serves multiple purposes. It is comprehensive. It offers something for all who attend. It fashions programs to meet the needs of the parent community it serves.

Research indicates that students of the two-year college are viewed differently from those of the four-year college. Cross (1969) stated that the community college student typically does not fit the tradition; thus, the measures of his characteristics and his self-development may render him inadequate by comparison with the senior college student.

Academic ability and intelligence prove to be major points of differentiation between two-year and four-year college students. On measures of academic ability and aptitude, including intelligence which was both measured and self-appraised, the two-year student fell below his four-year age-mate (Cooley & Becker, 1966; Astin et al., 1969; Medsker & Tillery, 1971; Cohen, 1971).

Research on the interests of two-year college students may help explain some of the discrepancies found in the academic and intellectual attitudes of two and four-year college students. A survey conducted by the American Council on Education (Astin et al., 1967) as well as the SCOPE study (1968), inquired of two-year and four-year students their "best abilities." The differences in their answers suggested that senior

college students feel most confident in their academic and verbal abilities, whereas junior college students perceive their talents in the non-academic realm.

The acknowledged interests and perceived abilities of two-year students may have had a strong bearing on the finding by Knoell and Medsker (1964) that junior college students tend to major in the applied fields or on the suggestion by Cooley and Becker (1966) that two-year students have a more practical orientation to college and to life than do their counterparts in four-year colleges. Other differentiations find the two-year student lower on the socioeconomic scale (Astin et al., 1967; Cooley & Becker, 1966) and more likely to be a part-time student due to full- or part-time employment (Cross, 1968; U.S. Census, 1970).

All of these factors and others ultimately influence the academic performance of the two-year college student. The effects of these factors tend to maximize the ratio of potential to actual enrollment and graduation levels in two-year colleges.

Ridlon (1961, p. 56) emphasized "the relationship of good reading skills to success in college is primary." In numerous studies, the Nelson-Denny Reading Test (Brown, 1973) has been positively correlated with grade point average (Blai, 1970, 1971; Freer, 1968). The results of Blai's (1970, p. 1) study supported the hypothesis that "reading plays a vital role in student achievement of academic success." Some studies also suggest that reading skills are influenced by attitudes and personality characteristics (Spache, 1961, 1963; McDonald, 1964; Brunkan and Shen, 1966; Maxwell, 1971). However, research on college reading achievement, especially that of community junior college students, is limited. Further studies are needed to promote conclusive results.

Feldman and Newcomb (1970) pointed out that a healthy adjustment to college life depends upon such nonintellectual characteristics as ability to cope with stress and anxiety as well as psychological readiness. "Life stress" as explained by Gunderson in Gunderson and Rahe (1974) is the broad area of research concerned with the events in daily living which effect susceptibility to negative physiological or psychological changes. Selye (1974, p. 27) defined stress as "the nonspecific response of the body to any demand made upon it."

A variety of studies in a variety of settings lend credence to the idea that stress and change are interwined. The life change theory is an outgrowth of the emphasis upon rate of change as the most important stress producing factor. Thomas H. Holmes, professor of psychiatry at the University of Washington, is among the chief researchers in the field of psychosomatic medicine and the life change theory. Holmes and his associates (1973) have relied upon the belief of Selye and others that a major change, either pleasant or unpleasant, requires a person to make some adjustment. Furthermore, his research has indicated that too many changes, coming too close together, can relate to the onset of illness or deep depression. After gathering extensive case history data over a twenty year period, Holmes and his associates compiled 43 life events which seemed to elicit change from the patient into a self-report inventory. They quantified through quasi-experimental research the amount of change in life adjustment that was necessary to adapt to the 43 specified life events. The self-report instrument was published by Holmes and Rahe (1967) under the title "Social Readjustment Rating Questionnaire." It has found numerous purposes.

Studies indicated that the amount of life change categorizes a person as low, medium, or high risk in his susceptibility to phenomena such as illness (Rahe, Meyer, Smith, Kjaer & Holmes, 1964; Holmes & Masuda, 1973; Rahe & Lind, 1971; Tollefson, 1972: Wold, 1968; Rahe, Mahan, Arthur & Gunderson, 1970), depression (Brown & Birley, 1968; Paykel in Gunderson & Rahe, 1974), anxiety (Lauer, 1973, 1974), minor health changes (Holmes & Holmes, 1970), and injury (Bramwell, 1971). College academic performance has also been examined in relation to life change (Harris, 1972; Henard, 1975). There was discrepancy in the findings of both studies. Harris found that the more life changes a subject had recently experienced, the lower was his grade point average. These findings were significant at the .05 and .01 levels for the low life change and high life change groups respectively. Henard's study found life stress to be influential at the .002 significance level upon college students only in terms of the number of semester hours that could be successfully completed. Grade point averages proved to be an insufficient correlate of life change.

Life change research by Holmes, Rahe, Masuda, Gunderson, and others involves an ongoing effort to quantify and qualify life events as they occur under the vice of Toffler's (1970) "future shock." These researchers have found that life change stresses trigger physiological and psychological reactions which could be detrimental to one's health and welfare. It is on the basis of their relatively new research that life change is considered a possible force to be reckoned with in the lives of two-year college freshmen even though studies are yet very limited which relate this phenomenon to the experiences of the college student.

This study investigated possible alternatives to traditional entrance examinations which might be used by the "open door" two-year college to assess diverse academic abilities and needs. The purpose of this research was to determine if life change as assessed by the Social and Collegiate Readjustment Rating Questionnaire (SCRRQ) and reading achievement as measured by the Nelson-Denny Reading Test (NDRT) could be utilized as predictors of academic performance for selected community college freshmen. Academic performance was measured by course hour loads completed during the first and second semesters, and attitudes expressed concerning academic, personal, social, and career goals. Attitudes were assessed by an original Attitude Survey. The ultimate goal of this study was to predict potential academic success accurately, so that a relevant program of study might be prescribed to alleviate weaknesses and build strengths and interests to the point where the student is satisfied with both his college achievement and his career potential.

Methodology

The sample was selected from the sub-population of 326 beginning freshman students enrolled in the academic curriculum of an accredited two-year comprehensive community college in Northwest Texas, Amarillo College. In late August, 1974, 403 beginning community college freshmen were administered the Nelson-Denny Reading Test (NDRT) to assess reading achievement. In the last week of April, 1975, all (N=326) of those students who had taken the Nelson-Denny and had remained in college for the Spring Semester of 1975 were mailed a packet containing the following instruments: (1) a cover letter explaining the study and encouraging response, (2) a demographic data questionnaire, (3) a Social and Collegiate Readjustment Rating Questionnaire (SCRRQ), and (4) an Attitude Survey.

By early May, 1975, one-hundred and seventy-two (53%) had returned the questionnaire packet. Of this number 117 were selected for inclusion as subjects.

The only restriction placed on the sampling procedure, aside from the fact that the subjects volunteered, were efforts to achieve an equal porportion in each of six groups. The subjects were dichotomized into one of two life change groups (high risk or low risk) according to the life change unit accumulation assessed by the SCRRQ. The subjects were also classified into one of three reading groups (high, moderate, or low) according to a composite vocabulary and comprehension score on the NDRT. There were 20 subjects in each of the five groups and 17 subjects in one group.

The following dependent measures were then identified for each of the respondents: (1) first semester (fall, 1974) course hour load completed, (2) first semester grade point average earned, (3) second semester (spring, 1975) course hour load completed, (4) second semester grade point average earned, (5) composite grade point average earned, and (6) attitude variables as measured by an Attitude Survey developed and validated by the investigator to assess personal, social, academic, and career perceptions.

Data were subjected to descriptive analysis and were then exposed to a two-by-three factorial analysis of variance to determine significant differences in the six groups on the variables in question. Multivariate analysis distinguished significant item differentiations on the Attitude Survey between the six groups. In a supplemental study, an intercorrelation analysis was executed on selected variables.

Results and Conclusions

As indicated in Table 1, reading achievement interacted significantly with each of the six dependent measures of academic performance: fall and spring course hour load, fall, spring and composite grade point average; and selected attitude variables. In fact, reading achievement was most significant as a main effects measure on initial course hour load and initial semester grade point average. These findings substantiated the notion that reading achievement was an accurate predictor of academic performance, especially in the initial semester of college. It can be concluded that reading achievement is a determinant of potential academic performance when measured by course hours completed, grades made, and attitudes expressed.

A multivariate analysis determined the significance of 44 attitude factors in relation to reading achievement. Personal perspectives such as loneliness and disappointment were significant due to the differentiation between the high and low achievement levels on these attitudes. While high and moderate levels tended to disagree that they were lonely, low achievers in reading tended to agree. Low achievers also showed more tendency toward feelings of disappointment in life. Interestingly, the moderate achievers in reading seemed most content with life in view of the disappointments it held. Academically related attitudes produced differing results. High achievers in reading were less likely to agree that college helped one think for himself, that self-paced classes were helpful, or that participation in class discussions was embarrassing. It can be concluded that reading achievement related to attitudes in determining academic success.

TABLE 1

Analyses of Reading Achievement by Descriptive Statistics and Analysis of Variance

Dependent Variables	Reading Achievement							
	High (n = 40)		Moderate (n=40)		Low (n = 37)			
	Mean	SD	Mean	SD	Mean	SD	F-Ratio	P
Fall Course Hour Load	14.08	2.48	13.50	3.14	10.59	4.06	13.52	.0001
Fall Grade Point Average	3.08	.66	2.73	.70	2.41	.83	7.70	.0011
Spring Course Hour Load	13.55	3.64	13.31	3.07	11.17	3.72	4.83	.0099
Spring Grade Point Average	3.04	.69	2.78	.67	2.57	.65	4.57	.0148
Composite Grade Point Average	3.04	.62	2.74	.65	2.62	.62	4.24	.0168

Table 2 displays the main effects of life change on the six dependent variables including course hour loads, grade point averages, and selected attitude factors. Being in the high or low risk life change category caused significant differentiation on only one variable, spring course hour load. High risk subjects completed less course hours than did low risk subjects. A similar trend was evident in the fall semester but not to a significant degree. It can be concluded that life change is not a determinant of academic performance in terms of grade point averages or attitudes. However, the course hour load which a subject was able to complete tended to reflect upon the life stress he was experiencing due to life change.

Table 3 indicates the significant interaction between the levels of reading achievement and the categories of life change as they influenced course hour loads and grade point averages. Results indicated that the grade point averages for the first academic year were unrelated to the interaction effects of reading achievement and life change. However, the initial semester course hour load was significantly influenced by these interaction effects. Low risk, low reading ability subjects completed significantly fewer course hours. It can be concluded from this finding that when reading achievement was measured in conjunction with life change measurement on the subjects, a predictor of course hour capacity evolved. This interaction implies the impact of college work on the beginning student. The strongest recommendation that can be created from this interaction is focused on a matrix in Table 4 that was developed to make applicable the results of this research. It organizes possible

TABLE 2

Analysis of Life Change by Descriptive Statistics and Analysis of Variance

Dependent Variables	Life Change					
	High Risk (n=60)		Low Risk (n=57)			
	Mean	SD	Mean	SD	F-Ratio	P
Fall Course Hour Load	12.19	3.48	13.35	3.62	2.81	.09
Fall Grade Point Average	2.68	.80	2.82	.75	.95	.67
Spring Course Hour Load	11.73	4.19	13.94	2.37	10.06	.002
Spring Grade Point Average	2.79	.70	2.85	.69	.20	.66
Composite Grade Point Average	2.78	.65	2.86	.65	.20	.66

TABLE 3

Interaction of Life Change by Reading Achievement on Descriptive Statistics and Analysis of Variance

	Life Change by Reading Achievement													
	Group I		Group II		Group III		Group IV		Group V		Group VI		F-Ratio	P
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD		
Fall Course Hour Load	13.25	2.8	12.11	3.8	11.2	3.6	14.9	1.9	14.75	1.6	9.88	4.51	4.05	.02
Fall Grade Point Average	3.11	.62	2.5	.77	2.38	.85	3.04	.72	2.93	.59	2.45	.84	1.08	.34
Spring Course Hour Load	12.50	4.56	12.11	3.6	10.41	4.2	14.6	2.04	14.45	1.85	12.15	2.79	.07	.93
Spring Grade Point Average	2.96	.75	2.76	.70	2.61	.62	3.11	.63	2.81	.66	2.51	.70	.34	.72
Composite Grade Point Average	3.02	.59	2.62	.71	2.67	.59	3.07	.66	2.86	.58	2.55	.68	.73	.51

TABLE 4

Matrix of Suggested Curricula Based on Student Needs as Measured by Life Change and Reading Achievement

LIFE CHANGE	READING ACHIEVEMENT: High (NDRT Score: 80 or above)	Moderate (NDRT Score: 59-79)	Low (NDRT Score: below 59)
High (SCRRQ Score: 300 LCU or above)	1. Traditional college coursework 2. Not more than 12-15 credit hours per semester 3. Humanistic psychology course or group counseling	1. Traditional college coursework 2. Reading techniques course 3. Not more than 12 credit hours per semester 4. Developmental courses in any weak subject areas 5. Humanistic psychology course or group counseling	1. Developmental courses in all weak subject areas 2. Reading techniques course 3. Not more than 12 credit hours per semester 4. Humanistic psychology course or group counseling
Low (SCRRQ Score: below 300 LCU)	1. Traditional college coursework 2. 15 or more credit hours per semester if desired	1. Traditional college coursework 2. Reading techniques course 3. Not more than 12-15 credit hours per semester 4. Developmental courses in any weak subject areas	1. Developmental courses in all weak subject areas 2. Reading techniques course 3. Not more than 12 credit hours per semester 4. Humanistic psychology course or group counseling

indicators which counselors, advisors, and instructors can use as a quick profile reference of the entering freshman from which guidance could be offered with regard to individual curricular needs. Currently the matrix is subject to revision pending needed additional research and implementation.

It was concluded on the basis of results that: (1) reading achievement is an effective predictor of grade point average, course hour load, and selected attitude factors; (2) life change predicts only course hour load effectively; and (3) the interaction of reading achievement and life change is significant only as a predictor of course hour load.

Based on the conclusions of this research, it is recommended that: (1) the study be replicated on a larger scale in different locales with both two-year and four-year college freshmen; (2) two year colleges consider utilizing reading achievement as an effective predictor of academic performance for incoming freshmen; and (3) further research be conducted to determine the effects of life change on the academic performance of community college freshmen.

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